

Notice of Allowability

Application No.

09/693,044

Examiner

Jeff Piziali

Applicant(s)

OKADA ET AL.

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2673

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the Amendment filed 30 July 2004.
2. ☒ The allowed claim(s) is/are 1, 2, 4, 5, 7, 8, 10 and 19-23 (renumbered as claims 1-12).
3. ☒ The drawings filed on 12 September 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 12162003
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.



14 October 2004

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Drawings

2. The drawings were received on 12 September 2003. These drawings are acceptable.

Allowable Subject Matter

3. Claims 1, 2, 4, 5, 7, 8, 10 and 19-23 (renumbered as claims 1-12) are allowed.
4. The following is a statement of reasons for the indication of allowable subject matter:
The present invention comprises an active-matrix liquid crystal display apparatus. The closest prior art, Takeda et al. (US 5,398,043), discloses an active-matrix substrate including a plurality of scanning electrode lines [Fig. 1, 1], a plurality of data electrode lines [Fig. 1, 2], pixel electrodes [Fig. 1, A] and switching elements [Fig. 1, 3], the pixel electrodes being respectively connected to intersections of the plurality of scanning electrode lines and the plurality of data electrode lines via the switching elements; a counter electrode substrate including a counter electrode formed thereon, the counter electrode being opposed to the pixel electrodes; a liquid crystal [Fig. 1, 7] sandwiched between the active matrix substrate and the counter electrode substrate; the active-matrix substrate further including supplementary capacitance lines which

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are formed in parallel to the scanning electrode lines, and supplementary capacitances [Fig. 1, 8] for holding display data which are connected between the pixel electrodes and the supplementary capacitance lines, the apparatus further comprising: a supplementary capacitance drive circuit [Fig. 1, Ve] for driving the supplementary capacitance lines so that a predetermined potential difference between the voltage applied to the counter electrode and the voltage applied to the pixel electrodes is always maintained when any of the pixel electrodes and supplementary capacitances leaks (see Column 6, Line 21 - Column 8, Line 50).

Moreover, Applicants' own admitted prior art discloses an active-matrix liquid crystal display apparatus [Fig. 7, 1] comprising: an active-matrix substrate [Fig. 7, 2] including a plurality of scanning electrode lines [Fig. 8, 11], a plurality of data electrode lines [Fig. 8, 12], pixel electrodes [Fig. 8, 14] and switching elements [Fig. 8, 10], the pixel electrodes being respectively connected to intersections of the plurality of scanning electrode lines and the plurality of data electrode lines via the switching elements; a counter electrode substrate [Fig. 7, 3] including a counter electrode [Fig. 8, 16] formed thereon, the counter electrode being opposed to the pixel electrodes; a liquid crystal [Fig. 8, C_{LC}] sandwiched between the active matrix substrate and the counter electrode substrate; the active-matrix substrate further including supplementary capacitance lines [Fig. 8, 15] which are formed in parallel to the scanning electrode lines, and supplementary capacitances [Fig. 8, Cs] for holding display data which are connected between the pixel electrodes and the supplementary capacitance lines, the apparatus further comprising: a supplementary capacitance drive circuit [Fig. 8, Cs] for driving the supplementary capacitance lines so that a predetermined potential difference between the voltage applied to the counter electrode and the voltage applied to the pixel electrodes is always

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maintained [wherein, the amount that remains after V_{com} is subtracted from V_{cs} is always equal to zero] when any of the pixel electrodes and supplementary capacitances leaks (see Figs. 7-9 and Pages 1-6).

However, neither aforementioned reference expressly discloses a supplementary capacitance drive circuit for driving the supplementary capacitance lines based on a voltage applied to the counter electrode so that a predetermined potential difference between the voltage applied to the counter electrode and a voltage applied to the pixel electrodes, which voltages are different from each other, is always maintained when any of the pixel electrodes and supplementary capacitances leaks. This distinct supplementary capacitance driving technique has been incorporated into all six independent claims (claims 1 and 19-23), thereby rendering them allowable.

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeff Piziali whose telephone number is (703) 305-8382. The examiner can normally be reached on Monday - Friday (6:30AM - 3PM).


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703) 305-4938. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



J.P.

14 October 2004



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